

CLAIMS

What is Claimed:

1. A compact peripheral component interconnect (CPCI) system, comprising:
- 5 a chassis;
- a circuit board forming a backplane within said chassis;
- a node card coupled with said circuit board and having a central processing unit (CPU), said CPU running a plurality of applications for managing and accessing devices on said CPCI system;
- 10 an Intelligent Platform Management Interface (IPMI);
- an IPMI micro-controller coupled with said circuit board and in communication with said CPU via said IPMI;
- wherein said IPMI micro-controller and said CPU comprise a plurality of virtual controllers; and
- 15 wherein each of said plurality of applications running on said CPU can independently access resources on said IPMI micro-controller via said plurality of virtual controllers.
2. The CPCI system of Claim 1, wherein each of said plurality of virtual
- 20 controllers is coupled with a corresponding one of said plurality of applications for managing and accessing said devices on said CPCI system.
3. The CPCI system of Claim 1, wherein each of said plurality of applications
- 25 running on said CPU can simultaneously access said resources on said IPMI micro-controller via said plurality of virtual controllers.
4. The CPCI system of Claim 1, wherein each of said plurality of applications running on said CPU can currently access said resources on said IPMI micro-controller via said plurality of virtual controllers.

5. The CPCI system of Claim 1, wherein said plurality of virtual controllers comprise at least 256 virtual controllers for interfacing with at least 256 applications for managing and accessing said devices on said CPCI system.

5

6. The CPCI system of Claim 1, wherein said plurality of applications comprises a plurality of clients of said IPMI micro-controller.

7. The CPCI system of Claim 6, wherein said plurality of virtual controllers provide an interface to allow at least one of said plurality of clients to obtain a handle to at least one of said plurality of virtual controllers.

10

8. The CPCI system of Claim 6, wherein said plurality of virtual controllers provide an interface for at least one of said plurality of clients to reserve exclusive rights to certain IPMI commands on at least one of said plurality of virtual controllers.

15

9. The CPCI system of Claim 6, wherein said plurality of virtual controllers provides an interface for at least one of said plurality of clients to request an asynchronous message received on said IPMI micro-controller.

20

10. The CPCI system of Claim 6, wherein at least one of said plurality of clients comprises a plurality of virtual clients of said plurality of virtual controllers, wherein at least one of said plurality of virtual clients can reserve a sequence number, and wherein said sequence number is used to decide at least one of said virtual controllers intended for said at least one client.

25

11. The CPCI system of Claim 1, wherein each of said plurality of applications running on said CPU can perform a plurality of independent management tasks without any correlation with each other via said plurality of virtual controllers.

12. A compact peripheral component interconnect (CPCI) system, comprising:
a chassis;
a circuit board forming a backplane within said chassis;
5 a node card coupled with said circuit board and having a central processing unit (CPU), said CPU running a plurality of applications for managing and accessing devices on said CPCI system;
an Intelligent Platform Management Interface (IPMI);
an IPMI micro-controller coupled with said circuit board and in communication
10 with said CPU via said IPMI;
a virtualizer agent; and
a plurality of virtual controllers coupled with said IPMI micro-controller via said virtualizer agent;
wherein said virtualizer agent accepts requests from each of said virtual
15 controllers and forwards said requests to said IPMI micro-controller;
wherein said virtualizer further accepts information received from said IPMI micro-controller and forwards said information to at least one of said plurality of virtual controllers; and
wherein each of said plurality of applications is independently coupled to said
20 IPMI micro-controller via said plurality of virtual controllers.

13. The CPCI system of Claim 12, wherein said virtualizer agent comprises a multiplexer.

25 14. The CPCI system of Claim 12, wherein said virtualizer agent comprises a de-multiplexer.

15. The CPCI system of Claim 12, wherein said virtualizer agent comprises a multiplexer and de-multiplexer agent.

16. The CPCI system of Claim 15, wherein said multiplexer and de-multiplexer agent comprise a device driver module of an operating system running on said CPU.

5 17. The CPCI system of Claim 15, wherein said multiplexer and de-multiplexer agent comprise a device daemon that communicates directly with said IPMI micro-controller.

10 18. The CPCI system of Claim 12, wherein said virtualizer agent provides a plurality of interfaces for usage by said plurality of applications and wherein said plurality of interfaces comprise one of an interface to allow at least one of said plurality of applications to obtain a handle to at least one of said plurality of virtual controllers, an interface to allow at least one of said plurality of applications to reserve exclusive rights for an IPMI command on at least one of said plurality of virtual controllers, and an
15 interface to allow at least one of said plurality of applications to request an asynchronous message received on said IPMI micro-controller.

19. The CPCI system of Claim 12, wherein each of said plurality of applications running on said CPU can perform a plurality of independent management
20 tasks without any correlation between said management tasks via said plurality of virtual controllers.

20. The CPCI system of Claim 12, wherein at least one of said plurality of applications can reserve an IPMI sequence number and wherein said IPMI sequence
25 number is used to determined at least one of said plurality of virtual controllers intended to serve said at least one application.

21. A compact peripheral component interconnect (CPCI) system, comprising:
a chassis;
a circuit board forming a backplane within said chassis;
a node card coupled with said circuit board and having a central processing unit
5 (CPU), said CPU running a plurality of applications for managing and accessing devices
on said CPCI system;
an Intelligent Platform Management Interface (IPMI);
an IPMI micro-controller coupled with said circuit board and communicating with
said CPU via said IPMI;
10 a virtualizer agent; and
a plurality of virtual controllers coupled with said IPMI micro-controller via said
virtualizer agent;
wherein said virtualizer agent provides an interface to allow each of said plurality
of applications to obtain a handle to a corresponding one of said plurality of virtual
15 controllers, an interface to allow each of said plurality of applications to reserve an
exclusive right for an IPMI command on a corresponding one of said plurality of virtual
controllers, and an interface to allow at least one of said plurality of applications to
request an asynchronous message received on said IPMI micro-controller;
wherein each of said plurality of applications running on said CPU can perform a
20 plurality of independent management tasks without any correlation between said
management tasks via said plurality of virtual controllers; and
wherein at least one of said plurality of applications can reserve an IPMI
sequence number and wherein said IPMI sequence number is used to determined at
least one of said plurality of virtual controllers intended to serve said at least one
25 application.